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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DENNIS L. KEISER

Appeal 2010-003538
Application 10/694,198
Technology Center 3700

Before ROBERT A. CLARKE, CHARLES N. GREENHUT, and JAMES P.
CALVE, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Dennis L. Keiser (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-9 and 13-15. Claims 10-12 were previously withdrawn. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM-IN-PART.

THE INVENTION

The claims are directed to a method of evaluating the power of a muscle group of a person. Claim 1, which is set forth below, is illustrative of the claimed subject matter on appeal:

1. A method of evaluating the power of a muscle group of a person, comprising:
 - initializing a resistance element to a first resistance level;
 - moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;
 - measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
 - increasing the resistance level of the resistance element;
 - repeating the acts of moving, measuring and increasing until sufficient data are collected;
 - calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;
 - generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and
 - determining a maximum power for the muscle group.

THE REJECTIONS

The Examiner relies on the following as evidence of unpatentability:

Carlson	US 4,730,829	Mar. 15, 1988
Stima, III	US 4,846,466	July 11, 1989
Brock	US 6,231,481 B1	May 15, 2001
MacFarlane	US 6,672,157 B2	Jan. 6, 2004
Warner	US 2002/0086774 A1	July 4, 2002

The following grounds of rejection are before us for review:

1. The Examiner rejected claims 1, 2, 8, 9, and 13-15 under 35 U.S.C. § 102(e) as being anticipated by Warner.
2. The Examiner rejected claims 3, 4, 6, and 7 under 35 U.S.C. § 103(a) in view of Warner alone or in combination with other prior art of record.¹
3. The Examiner rejected claims 1, 5, 8, and 9 under § 103(a) as being unpatentable in view of MacFarlane and Brock.

ISSUES

The issues presented by this appeal are:

Does Warner disclose “moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke” and “determining a maximum power for the muscle group” as called for in claim 1?

¹ Although the Examiner asserts the rejections of claims 3, 4, 6, and 7 are not presented for review in Appellant’s Brief (*see* Ans. 2-3), we consider these claims to be on appeal based on Appellant’s statement that claims 1-9 and 13-15 remain pending and are at issue on this Appeal and Appellant’s presentation of separate arguments for the patentability of these claims. *See* App. Br. 3, 10.

Does MacFarlane disclose “moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke” and “determining a maximum power for the muscle group” as called for in claim 1?

Would it have been obvious to one of ordinary skill in the art to modify the method of MacFarlane with the teachings of Brock to include “generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes” as called for in claim 1?

ANALYSIS

Rejection of claims 1, 2, 8, 9, and 13-15

Relevant to the issue on appeal, the Examiner found Warner discloses “moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke” and “determining a maximum power for the muscle group” as recited in claim 1. Ans. 3-4. The Examiner interpreted “highest achievable velocity through an exercise stroke” to mean the highest velocity *achieved* during the exercise. Ans. 6-7. Based on this interpretation, the Examiner found Warner discloses moving an engagement assembly at a highest achievable velocity even though Warner teaches keeping a constant pace. Ans. 6-7. The Examiner also found Warner determines the maximum power for the muscle group, as recited in claim 1. Ans. 4, 6.

Appellant argues that Warner does not disclose attaining “a highest achievable velocity” but instead teaches away from this feature by using a pacing system to ensure a user maintains a constant pace during a workout. App. Br. 7. As a result, Appellant argues that Warner cannot determine “a maximum power for the muscle group,” as recited in claim 1. App. Br. 8.

It is well settled that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). It also is well-settled that the U.S. Patent and Trademark Office applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise may be afforded by the written description contained in the applicant’s specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). The ordinary meaning of claim terms may be established by dictionary definitions. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

The Examiner’s interpretation of “highest achievable velocity” to mean the highest velocity *achieved* during an exercise stroke is unreasonable and inconsistent with the Specification. An ordinary meaning of “achieve” includes “to get or attain as the result of exertion.” MERRIAM WEBSTER’S COLLEGIATE® DICTIONARY 10 (11th ed. 2005). Therefore, an ordinary and customary meaning of “highest achievable velocity” includes the greatest velocity a person is capable of attaining through exertion. This meaning is consistent with the Specification, which discloses that “the user applies maximum force to the handgrips 60L, 60R to move the handgrips at the maximum speed the user can achieve.” Spec. [0090]. The user maintains a high speed throughout the exercise stroke. Spec. [0090].

We agree with Appellant that Warner does not disclose moving an engagement assembly coupled to the resistance element at “a highest achievable velocity” through an exercise stroke, as recited in claim 1.² *See* App. Br. 7. Instead, Warner’s system calculates a pacing interval based on the number of repetitions and maximum time allowed for the set. Warner [0293]. The system paces a workout dynamically by detecting a repetition and telling the user to go slower or faster to maintain a pace. Warner [0040-0042, 0294-0296]. The pacing system helps users maintain optimum power and work balance throughout a workout. Warner [0306-0310]; figs. 8a-8d. For these reasons, we are not persuaded that Warner inherently discloses moving an engagement assembly at a highest achievable velocity, either.³

As such, we cannot sustain the rejection of claim 1 based on Warner. Because claims 2, 8, 9, and 13-15 depend from claim 1 and include all the limitation of claim 1, we cannot sustain the rejection of those claims. *See MEMS Tech. Berhad v. Int’l Trade Comm’n*, 2011 WL 2214091, at *12 (Fed. Cir. June 3, 2011) (where prior art reference does not anticipate independent claim 1, it also cannot anticipate asserted dependent claims 2, 9, 15, 17, 28, or 29, which depend from claim 1 and contain all the limitations of claim 1).

² Appellant’s argument that Warner teaches away from the claimed subject matter (*see* App. Br. 7) is not persuasive, however. *See Seachange Int’l, Inc. v. C-Cor, Inc.*, 413 F.3d 1361, 1380 (Fed. Cir. 2005) (“Teaching away is irrelevant to anticipation.”).

³ The Examiner made this finding in the office action that formed the basis of Appellant’s appeal. *See* Office Action mailed Feb. 4, 2009, at 7.

Claims 3, 4, 6, and 7

The Examiner rejected dependent claims 3, 4, 6, and 7 under § 103(a) based on Warner alone and in combination with other prior art of record.⁴ Appellant argues that these claims depend from claim 1 and include all the limitations of claim 1. Therefore, they are allowable because Warner does not anticipate claim 1. App. Br. 10. We agree. We cannot sustain the Examiner's rejection of claims 3, 4, 6, and 7.

Claims 1, 5, 8, and 9 based on MacFarlane and Brock

Appellant argues claims 1, 5, 8, and 9 as a group. We select claim 1 as the representative claim of the group. Dependent claims 5, 8, and 9 stand or fall with claim 1. See 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner found MacFarlane discloses all of the limitations of claim 1 except generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes. Ans. 5. The Examiner found Brock teaches a method of evaluating the power of a muscle group and generates an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes. Ans. 5. The Examiner determined it would have been obvious to generate an output that represents the measured velocity and calculated power for a plurality of exercise strokes, as taught by Brock, in the method of MacFarlane to assist users in maximizing or optimizing their efforts. Ans. 5.

⁴ The Examiner rejected claim 3 under § 103(a) as being unpatentable over Warner and Stima, III. The Examiner rejected claim 4 under § 103(a) as being unpatentable over Warner and Carlson. The Examiner rejected claim 6 under § 103(a) as being unpatentable over Warner, Stima, III, and Brock. The Examiner rejected claim 7 under § 103(a) as being unpatentable over Warner. See Office Action mailed Feb. 4, 2009, at 4-6.

Appellant argues that MacFarlane's power tester does not "mov[e] an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke" or "determin[e] a maximum power for the muscle group." App. Br. 11. Appellant further argues that Example 1 of MacFarlane compares power measurements for test subjects using isokinetic, vertical jump, and isotonic machines, separately determines a power for each subject, and then compares the power measurements in a summary. App. Br. 11. Appellant asserts that the isotonic testing does not identify a maximum velocity at which maximum power is achieved for a muscle group. App. Br. 11. Therefore, Appellant contends that MacFarlane does not determine a maximum power for the muscle group. App. Br. 12. Appellant further argues Brock and MacFarlane are not combinable because Brock measures and displays the power a person generates in real time so the person can try to increase their peak power, whereas MacFarlane uses a testing program to validate the accuracy of a power tester on different machines. App. Br. 13.

We agree with the Examiner that MacFarlane discloses a method of moving an engagement assembly coupled to a resistance element at a highest achievable velocity. Ans. 5. MacFarlane measures reaction time and power for sports and rehabilitation. MacFarlane, col. 10, ll. 4-19. A user enters the mass and the distance between two sensors that the mass will be moved, and a controller then cues the user to "accelerate the mass as quickly as possible so that the mass breaks the plane of the two pairs of sensors." MacFarlane, col. 10, ll. 21-24. When both sensors are triggered, the control presents data such as time from the cue to the first sensor trigger, time between sensor triggers, and the mean power of movement based on the speed of movement

and entered mass. MacFarlane, col. 10, ll. 24-30. MacFarlane discloses this protocol as the basis for using the invention and performing the disclosed examples. MacFarlane, col. 10, ll. 31-36. Persons skilled in the art would understand that accelerating a mass as quickly as possible through an entire repetition results in the repetition being performed at a highest achievable velocity. MacFarlane also calculates the maximum power for a muscle group. *See* MacFarlane, col. 10, ll. 25-30.

We also agree with the Examiner that it would have been obvious to one skilled in the art to modify MacFarlane's method of measuring power with the teachings of Brock to generate an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes. *See* Ans. 5. MacFarlane presents data from an exercise including reaction time from the initial cue to the first sensor trigger, the time to move a mass between sensor triggers, the mean power of movement calculated from the speed of movement, and the mass moved. MacFarlane, col. 10, ll. 24-30. MacFarlane can provide a visual and/or auditory cue to signal when to start movement, a dual readout showing the time between a cue signal and initial movement, the time to move a mass between two sensors, and power output. MacFarlane, col. 5, ll. 59-67; fig. 7. Brock teaches a wide range of displays and formats for displaying power, position, velocity, and acceleration. Brock, col. 2, ll. 27-45; figs. 5, 6, 8-10. A person skilled in the art would have been led to include Brock's display in MacFarlane's method to display velocity, power, and other information to help a user optimize or maximize an exercise routine where both references teach the efficacy of measuring the power of a user for sports, physical therapy, and other physical activity. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (application of a

known technique to a known device that is ready for improvement with predictable results is obvious unless its actual application is beyond the level of ordinary skill in the art); *see also Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (where the prior art combination lacked a reader but readers were well-known in the art at the time of the invention, it would have been obvious to add a reader to provide a well-known benefit in a children's toy that simplified its use and improved its marketability absent evidence that inclusion of the reader was beyond the level of ordinary skill in the art or an unobvious step over the prior art).

As such, we sustain the Examiner's rejection of claim 1, and claims 5, 8, and 9, which fall with claim 1, under 35 U.S.C. § 103(a).

CONCLUSION

Warner does not disclose "moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke" and "determining a maximum power for the muscle group" as called for in claim 1.

MacFarlane discloses "moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke" and "determining a maximum power for the muscle group" as called for in claim 1.

It would have been obvious to one of ordinary skill in the art to modify the method of MacFarlane with the teachings of Brock to include "generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes" as called for in claim 1.

DECISION

The Examiner's decision to reject claims 1, 2, 8, 9, and 13-15 under § 102(e) as being anticipated by Warner is REVERSED.

The Examiner's decision to reject claims 3, 4, 6, and 7 under § 103(a) in view of Warner alone or in combination with other prior art or record is REVERSED.

The Examiner's decision to reject claims 1, 5, 8, and 9 under § 103(a) as being unpatentable in view of MacFarlane and Brock is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

JRG